Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (canceled)
2. (canceled)
3. (canceled)
4. (canceled)

5. (original) A computer system, comprising:

a processor programmed to perform an arithmetic performance attribution computation to determine portfolio performance, relative to a benchmark, over multiple time periods *t*, where *t* varies from 1 to *T*, by determining coefficients $(A+\alpha_t)$, where the values α_t are defined as

$$\alpha_t = \left[\frac{R - \overline{R} - A\sum_{k=1}^{T}(R_k - \overline{R}_k)}{\sum_{k=1}^{T}(R_k - \overline{R}_k)^2}\right](R_t - \overline{R}_t),$$

where *A* has any predetermined value, R_t is a portfolio return for period *t*, $\overline{R}_t$ is a benchmark return for period *t*, R is determined by

$$R = [\prod_{t=1}^{T}(1+R_t)] - 1,$$

and $\overline{R}$ is determined by

$$\overline{R} = [\prod_{t=1}^{T}(1+\overline{R}_t)] - 1;$$

and determining the portfolio relative performance as

$$R - \overline{R} = \sum_{t=1}^{T}(A+\alpha_t)(R_t - \overline{R}_t);\text{ and}$$

a display device coupled to the processor for displaying a result of the arithmetic performance attribution computation.

6. (original) A computer readable medium which stores code for programming a processor to perform an arithmetic performance attribution computation to determine portfolio performance, relative to a benchmark, over multiple time periods t, where t varies from 1 to T, by determining coefficients $(A+\alpha_t)$, where the values α_t are defined as

$$\alpha_t = \left[\frac{R-\overline{R}-A\sum_{k=1}^{T}(R_k-\overline{R}_k)}{\sum_{k=1}^{T}(R_k-\overline{R}_k)^2}\right](R_t-\overline{R}_t),$$

where A has any predetermined value, R_t is a portfolio return for period t, $\overline{R}_t$ is a benchmark return for period t, R is determined by

$$R=[\prod_{t=1}^{T}(1+R_t)]-1,$$

and $\overline{R}$ is determined by

$$\overline{R}=[\prod_{t=1}^{T}(1+\overline{R}_t)]-1;$$

and determining the portfolio relative performance as $R-\overline{R}=\sum_{t=1}^{T}(A+\alpha_t)(R_t-\overline{R}_t)$.

7. (canceled)

8. (canceled)

9. (canceled)

10. (original) A computer system, comprising:

a processor programmed to perform a geometric performance attribution computation to determine portfolio performance, relative to a benchmark, over multiple time periods t, where t varies from 1 to T, by determining attribution effects for issue selection $(1+I_{it}^G)$ given by

$$1+I_{it}^G = \frac{1+w_{it}r_{it}}{1+w_{it}\overline{r}_{it}}\Gamma_t^I ,$$

and determining attribution effects for sector selection $(1+S_{it}^G)$ given by

$$1+S_{it}^{G}=\left(\frac{1+w_{it}\bar{r}_{it}}{1+\bar{w}_{it}\bar{r}_{it}}\right)\left(\frac{1+\bar{w}_{it}\bar{R}_t}{1+w_{it}\bar{R}_t}\right)\Gamma_t^{S}\ ,$$

where r_{jt} is a portfolio return for sector j for period t, $\bar{r}_{jt}$ is a benchmark return for sector j for period t, w_{jt} is a weight for r_{jt}, $\bar{w}_{jt}$ is a weight for $\bar{r}_{jt}$, R is determined by

$$R=[\prod_{t=1}^{T}(1+R_t)]-1$$

and $\bar{R}$ is determined by

$$\bar{R}=[\prod_{t=1}^{T}(1+\bar{R}_t)]-1,$$

and determining the portfolio performance as

$$\frac{1+R}{1+\bar{R}}=\prod_{t=1}^{T}\prod_{i=1}^{N}(1+I_{it}^{G})(1+S_{it}^{G});$$

and

a display device coupled to the processor for displaying a result of the geometric performance attribution computation.

11. (original) The system of claim 10, wherein the values of $\Gamma_t{}^{I}$ are

$$\Gamma_t^{I}=\left[\frac{1+R_t}{1+\widetilde{R}_t}\prod_{j=1}^{N}\left(\frac{1+w_{jt}\bar{r}_{jt}}{1+w_{jt}r_{jt}}\right)\right]^{1/N}$$ and the values of Γ_t^{S} are

$$\Gamma_t^{S}=\left[\frac{1+\widetilde{R}_t}{1+\bar{R}_t}\prod_{j=1}^{N}\left(\frac{1+\bar{w}_{jt}\bar{r}_{jt}}{1+w_{jt}\bar{r}_{jt}}\right)\left(\frac{1+w_{jt}\bar{R}_t}{1+\bar{w}_{jt}\bar{R}_t}\right)\right]^{1/N}.$$

12. (original) A computer readable medium which stores code for programming a processor to perform a geometric performance attribution computation to determine portfolio performance, relative to a benchmark, over multiple time periods t, where t varies from 1 to T, by determining attribution effects for issue selection $(1+I_{it}^{G})$ given by

$$1+I_{it}^{G}=\frac{1+w_{it}r_{it}}{1+w_{it}\bar{r}_{it}}\Gamma_t^{I}\ ,$$

and determining attribution effects for sector selection $(1+S_{it}^{G})$ given by

$$1+S_{it}^{G}=\left(\frac{1+w_{it}\bar{r}_{it}}{1+\bar{w}_{it}\bar{r}_{it}}\right)\left(\frac{1+\bar{w}_{it}\bar{R}_{t}}{1+w_{it}\bar{R}_{t}}\right)\Gamma_{t}^{S} \ ,$$

where r_{jt} is a portfolio return for sector j for period t, $\bar{r}_{jt}$ is a benchmark return for sector j for period t, w_{jt} is a weight for r_{jt}, $\bar{w}_{jt}$ is a weight for $\bar{r}_{jt}$, R is determined by

$$R=[\prod_{t=1}^{T}(1+R_{t})]-1$$

and $\bar{R}$ is determined by

$\bar{R}=[\prod_{t=1}^{T}(1+\bar{R}_{t})]-1$; and determining the portfolio performance as

$$\frac{1+R}{1+\bar{R}}=\prod_{t=1}^{T}\prod_{i=1}^{N}(1+I_{it}^{G})(1+S_{it}^{G}).$$

13. (original) The computer readable medium of claim 12, wherein the values of $\Gamma_t{}^I$ are $\Gamma_{t}^{I}=\left[\frac{1+R_{t}}{1+\tilde{R}_{t}}\prod_{j=1}^{N}\left(\frac{1+w_{jt}\bar{r}_{jt}}{1+w_{jt}r_{jt}}\right)\right]^{1/N}$ and the values of Γ_{t}^{S} are

$$\Gamma_{t}^{S}=\left[\frac{1+\tilde{R}_{t}}{1+\bar{R}_{t}}\prod_{j=1}^{N}\left(\frac{1+\bar{w}_{jt}\bar{r}_{jt}}{1+w_{jt}\bar{r}_{jt}}\right)\left(\frac{1+w_{jt}\bar{R}_{t}}{1+\bar{w}_{jt}\bar{R}_{t}}\right)\right]^{1/N} .$$

14. (canceled)

15. (canceled)

16. (original) A computer system, comprising:

a processor programmed to perform a geometric performance attribution computation to determine portfolio performance, relative to a benchmark, over multiple time periods t, where t varies from 1 to T, by determining attribution effects $1+Q_{ijt}^{G}$ given by

$$1+Q_{ijt}^{G}=\prod_{k}\left(\frac{1+a_{ijt}^{k}}{1+b_{ijt}^{k}}\right)\Gamma_{ijt}^{k} \ ,$$

where Γ_{ijt}^{k} are corrective terms that satisfy the constraint $\prod_{ij}(1+Q_{ijt}^{G})=\frac{1+R_t}{1+\overline{R}_t}$, each of $a^{k}{}_{ijt}$ and $b^{k}{}_{ijt}$ is a coefficient for attribution effect j, sector i, and period t, the coefficients a_{ijt}^{k} and b_{ijt}^{k} are obtained from arithmetic attribution effects $Q_{ijt}^{A}=\sum_k a_{ijt}^{k}-\sum_k b_{ijt}^{k}$ which correspond to the attribution effects $1+Q_{ijt}^{G}$, R_t is a portfolio return for period t, $\overline{R}_t$ is a benchmark return for period t, R is determined by

$$R=[\prod_{t=1}^{T}(1+R_t)]-1$$

and $\overline{R}$ is determined by

$$\overline{R}=[\prod_{t=1}^{T}(1+\overline{R}_t)]-1\text{, and}$$

determining the portfolio performance as $\frac{1+R}{1+\overline{R}}=\prod_{t=1}^{T}\prod_{i=1}^{N}\prod_{j=1}^{M}(1+Q_{ijt}^{G})$; and

a display device coupled to the processor for displaying a result of the geometric performance attribution computation.

17. (original) The system of claim 16, wherein M = 2, $1+Q_{i1t}^{G}$ are attribution effects for issue election given by $1+Q_{i1t}^{G}=\frac{1+w_{it}r_{it}}{1+w_{it}\overline{r}_{it}}\Gamma_t^{I}$, and $1+Q_{i2t}^{G}$ are attribution effects for sector selection given by $1+Q_{i2t}^{G}=\left(\frac{1+w_{it}\overline{r}_{it}}{1+\overline{w}_{it}\overline{r}_{it}}\right)\left(\frac{1+\overline{w}_{it}\overline{R}_t}{1+w_{it}\overline{R}_t}\right)\Gamma_t^{S}$,

where r_{it} is a portfolio return for sector i for period t, $\overline{r}_{it}$ is a benchmark return for sector i for period t, w_{it} is a weight for r_{it}, $\overline{w}_{it}$ is a weight for $\overline{r}_{it}$, the values of $\Gamma_t{}^{I}$ are

$$\Gamma_t^{I}=\left[\frac{1+R_t}{1+\widetilde{R}_t}\prod_{i=1}^{N}\left(\frac{1+w_{it}\overline{r}_{it}}{1+w_{it}r_{it}}\right)\right]^{1/N}\text{, and}$$

the values of Γ_t^{S} are $\Gamma_t^{S}=\left[\frac{1+\widetilde{R}_t}{1+\overline{R}_t}\prod_{i=1}^{N}\left(\frac{1+\overline{w}_{it}\overline{r}_{it}}{1+w_{it}\overline{r}_{it}}\right)\left(\frac{1+w_{it}\overline{R}_t}{1+\overline{w}_{it}\overline{R}_t}\right)\right]^{1/N}$.

18. (original) A computer readable medium which stores code for programming a processor to perform a geometric performance attribution computation to determine portfolio performance, relative to a benchmark, over multiple time periods t, where t varies from 1 to T, by determining attribution effects $1+Q^G_{ijt}$ given by

$$1+Q^G_{ijt}=\prod_k\left(\frac{1+a^k_{ijt}}{1+b^k_{ijt}}\right)\Gamma^k_{ijt},$$

where Γ^k_{ijt} are corrective terms that satisfy the constraint $\prod_{ij}(1+Q^G_{ijt})=\frac{1+R_t}{1+\overline{R}_t}$, each of $a^k{}_{ijt}$ and $b^k{}_{ijt}$ is a coefficient for attribution effect j, sector i, and period t, R_t is a portfolio return for period t, the coefficients a^k_{ijt} and b^k_{ijt} are obtained from arithmetic attribution effects $Q^A_{ijt}=\sum_k a^k_{ijt}-\sum_k b^k_{ijt}$ which correspond to the attribution effects $1+Q^G_{ijt}$, $\overline{R}_t$ is a benchmark return for period t, R is determined by $R=[\prod_{t=1}^{T}(1+R_t)]-1$, and $\overline{R}$ is determined by $\overline{R}=[\prod_{t=1}^{T}(1+\overline{R}_t)]-1$, and determining the portfolio performance as $\frac{1+R}{1+\overline{R}}=\prod_{t=1}^{T}\prod_{i=1}^{N}\prod_{j=1}^{M}(1+Q^G_{ijt})$.

19. (original) The computer readable medium of claim 18, wherein M = 2, $1+Q^G_{i1t}$ are attribution effects for issue election given by $1+Q^G_{i1t}=\frac{1+w_{it}r_{it}}{1+w_{it}\overline{r}_{it}}\Gamma^I_t$, and $1+Q^G_{i2t}$ are attribution effects for sector selection given by

$$1+Q^G_{i2t}=\left(\frac{1+w_{it}\overline{r}_{it}}{1+\overline{w}_{it}\overline{r}_{it}}\right)\left(\frac{1+\overline{w}_{it}\overline{R}_t}{1+w_{it}\overline{R}_t}\right)\Gamma^S_t,$$

where r_{it} is a portfolio return for sector i for period t, $\overline{r}_{it}$ is a benchmark return for sector i for period t, w_{it} is a weight for r_{it}, $\overline{w}_{it}$ is a weight for $\overline{r}_{it}$, the values of $\Gamma_t{}^I$ are

$$\Gamma^I_t=\left[\frac{1+R_t}{1+\widetilde{R}_t}\prod_{i=1}^{N}\left(\frac{1+w_{it}\overline{r}_{it}}{1+w_{it}r_{it}}\right)\right]^{1/N},\text{ and}$$

the values of Γ_t^S are $\Gamma_t^S = \left[\frac{1+\widetilde{R}_t}{1+\overline{R}_t} \prod_{i=1}^{N} \left(\frac{1+\overline{w}_{it}\overline{r}_{it}}{1+w_{it}\overline{r}_{it}} \right) \left(\frac{1+w_{it}\overline{R}_t}{1+\overline{w}_{it}\overline{R}_t} \right) \right]^{1/N}$.